INDUSTRIAL CONTROLS

A MANUFACTURING OPPORTUNITY FOR PICAYUNE, MISSISSIPPI

ECONOMIC DEVELOPMENT ADMINISTRATION

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U.S. DEPARTMENT OF COMMERCE

MISSISSIPPI RESEARCH AND DEVELOPMENT CENTER

SUBPROJECT EA–081

INDUSTRIAL CONTROLS

A MANUFACTURING OPPORTUNITY FOR PICAYUNE, MISSISSIPPI

BY SID S CHAMPION

"This technical assistance study was accomplished by professional consultants under contract with the Economic Development Administration. The statements, findings, conclusions, recommendations, and other data in this report are solely those of the contractor and do not necessarily reflect the views of the Economic Development Administration."

MISSISSIPPI RESEARCH AND DEVELOPMENT CENTER

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Foreword

Faced with the challenge of employment cutbacks in the nearby NASA Mississippi Test Facility, Picayune's leaders have responded with a creative program to give the city a dynamic business climate and an aggressive community development plan. This study is a part of that program.

An analysis of the comparative costs of manufacturing industrial controls in Picayune, this study focuses on the opportunity for increased profit potential. Industrial controls are merely an example of a wide range of manufactured products that fit the area's resources; other product lines are enumerated in a companion report, *An Analysis of Picayune, Mississippi's, Industrial Potential*.

It is clear that a manufacturer of industrial controls can make money in Picayune. The annual saving on sales of $12 million is estimated at a minimum of $623,000 – an increase in pretax profits of at least 54%. In addition to the economic factors, however, the industrialist must evaluate the intangibles: the community attitudes and civic vigor. Such an evaluation, of course, must complement this report.

Questions or comments on the report will be welcomed.

Kenneth C. Wagner, Director
Mississippi Research and Development Center

Summary

A typical manufacturer of industrial controls, employing 350 production workers and having annual sales of $12 million, would save $623,000 to $825,000 by locating in Picayune, Mississippi, compared to equivalent plants north of the Ohio River. This saving would be the equivalent of an increase in pretax profits of 54% to 87%.

The Mississippi plant's savings would result primarily from lower labor and occupancy costs. The quality and availability of labor in the Picayune area has been evaluated by an independent survey as more than adequate, and is highly regarded by local manufacturers. The available labor force has been expanded by recent curtailment of the NASA test facility operations in the area, and many people are currently underemployed.

Building costs in Picayune would average 10% less than in northern cities. A financially sound manufacturer in Picayune would be eligible for financial assistance and tax advantages.

Freight costs from Mississippi to a national market would be higher than from northern plants, but this increased cost is relatively small. There is little variation in the delivered cost of raw materials, purchased components and supplies between regions of the United States.

Sales of industrial controls increased from $413 million to $1.2 billion from 1958 to 1969, and are expected to increase to $1.7 billion by 1975 and to $2.2 billion by 1980. The industry will require the equivalent of 23 new plants of 350 production workers each from 1972 to 1980 to meet this demand.

INTRODUCTION

This study analyzes the costs of manufacturing industrial controls in Picayune, Mississippi.

Industrial controls as defined for this study are devices which, individually or grouped, are used to control electric motors and other power-utilizing equipment. They include motor starters and controllers, relays and contactors, switches, timing devices, electric clutch brakes, rheostats, and electric positioning controls. This equipment is classified in Standard Industrial Classification 3622.

Market history and trends are studied in this report, and projections are made to 1980. Regional markets are discussed as well as regional manufacturing employment and trends. New plant needs are projected through 1980.

The costs of serving a national market from Picayune, Mississippi, are investigated and compared with equivalent costs in other cities.

THE MARKET FOR INDUSTRIAL CONTROLS

Manufacturer's sales of industrial controls are projected to increase from the 1969 figure of $1.2 billion to $1.7 billion by 1975 and $2.2 billion by 1980. The projected rate of increase is somewhat less than the 10.4% annual growth rate[1] which the industry experienced between 1958 and 1969, a period of rapid economic expansion and intensive automation of industry.

The forecast is based on the fact that in each year since 1958, sales of industrial controls have been about 3.8% of total U. S. manufacturers' expenditures for capital equipment.[2] The 11-year weighted average is 3.78%; a continuation of this relationship is assumed. A number of economists have projected U. S. manufacturers' expenditures for new plant and equipment through 1980. Projected sales of industrial controls are calculated as 3.78% of the "consensus" projections made by these economists. Table 1 and Figure 1 show the historical trends and projections.

1 U. S. Bureau of the Census, Census of Manufacturers, 1967, *Industry Series,* MC67(2)–36A (Washington: U. S. Government Printing Office, 1970), p. 36A–7.

U. S. Bureau of the Census, Annual Survey of Manufacturers, 1969, *Value of Shipments by Classes of Products,* M69(AS)–2 (Washington: U. S. Government Printing Office, 1971), p. 30.

2 The extreme values were 3.34% in 1958 and 4.00% in 1963. Since then, annual sales of industrial controls have ranged from 3.61% to 3.87% of total manufacturers' expenditures for new plant and equipment. (See Table 1.)

Table 1
INDUSTRIAL CONTROLS SALES AND RELATED DATA
1958–1969 AND PROJECTIONS TO 1980

Year	Total U. S. Manufacturers' Expenditures for New Plant and Equipment (Millions)[1]	Manufacturers' Sales of Industrial Controls (Millions)[6]	Industrial Controls Sales As a Percent of Total U. S. Manufacturers' Expenditures for New Plant and Equipment
1958	$12,380	$ 413	3.34
1959	12,770	496	3.88
1960	15,090	532	3.53
1961	14,330	548	3.83
1962	15,060	593	3.94
1963	16,220	648	4.00
1964	19,340	732	3.79
1965	23,440	846	3.61
1966	28,200	1,049	3.72
1967	28,510[2]	1,071[7]	3.76
1968	28,370[3]	1,114[7]	3.93
1969	31,680[3]	1,225[7]	3.87
1970	31,950[4]	1,207[8]	3.78[8]
1971	30,300[5]	1,145	3.78
1972	32,000	1,209	3.78
1975	44,300	1,675	3.78
1980	59,200	2,238	3.78

1 "New Plant and Equipment Expenditures," *Predicasts*, No. 44 (July 30, 1971), p. 18. *Predicasts* composite forecasts are made by taking the medians of published forecasts and adjusting them to form a consistent pattern. Some sources of published forecasts used by *Predicasts* are: National Industrial Conference Board, Dodge Reports, National Planning Association, Federal agencies, trade associations, and trade publications.

2 U. S. Office of Business Economics, *Survey of Current Business* (Washington: U. S. Government Printing Office, December, 1970), p. S–2.

3 *Survey of Current Business* (December, 1970), p. 15.

4 *Survey of Current Business* (December, 1971), p. 18.

5 "New Plant and Equipment Expenditures," *Predicasts*, No. 46 (January 28, 1972), p. 20 (for years 1971 through 1980).

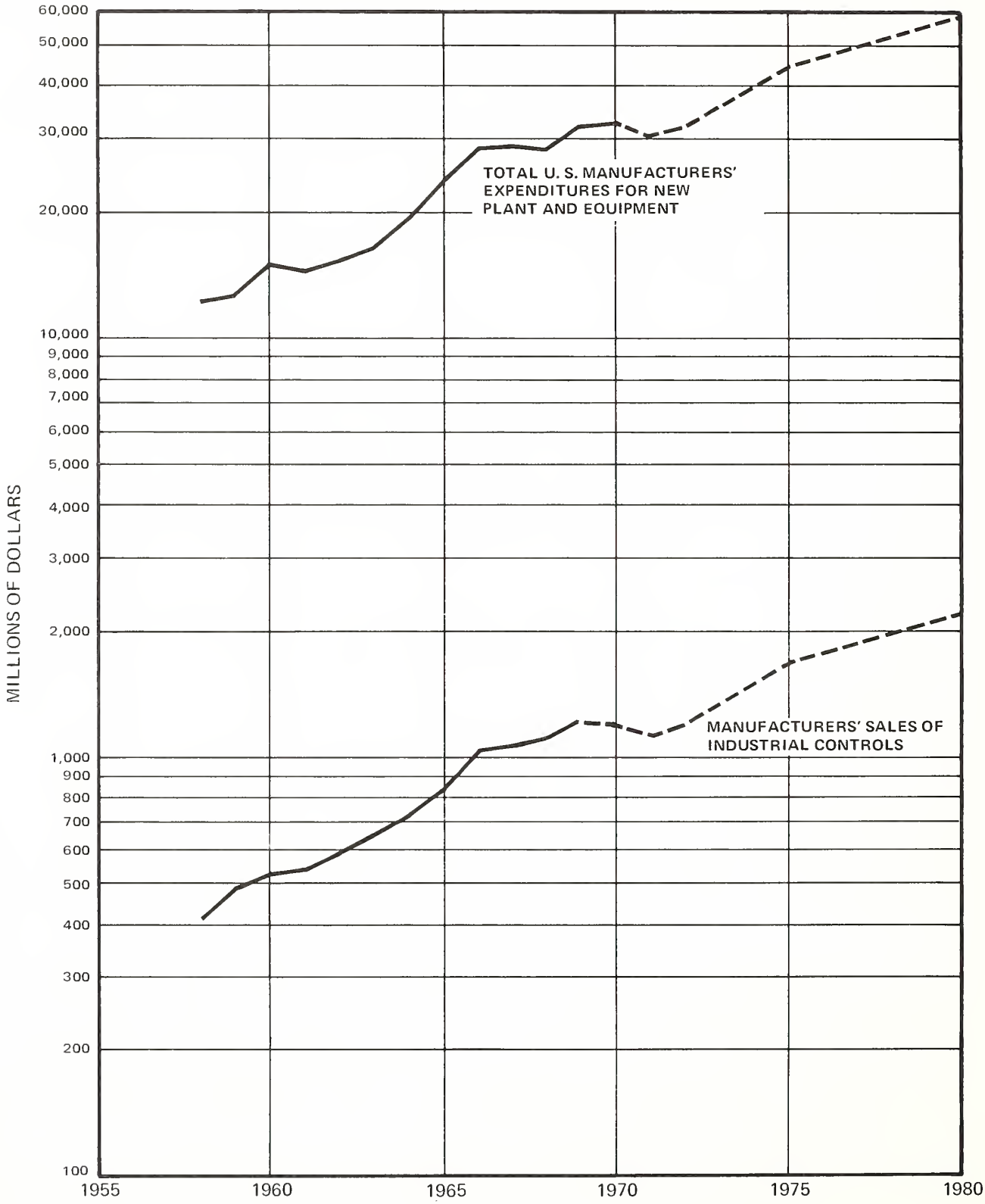
6 U. S. Bureau of the Census, Census of Manufacturers, 1967, *Industry Series*, MC67(2)–36A (Washington: U. S. Government Printing Office, 1970), p. 36A–7.

7 U. S. Bureau of the Census, Annual Survey of Manufacturers, 1969, *Value of Shipments by Classes of Products*, M69(AS)–2 (Washington: U. S. Government Printing Office, 1971), p. 30.

8 For the years 1970 through 1980 Industrial Controls Sales were calculated as 3.78% of Total Manufacturing Expenditures for New Plant and Equipment. This percentage is the weighted average for the years 1958 through 1969.

Figure 1

INDUSTRIAL CONTROLS SALES AND TOTAL U. S. MANUFACTURERS' CAPITAL SPENDING 1958–1969 AND PROJECTIONS TO 1980



SOURCE: See Table 1.

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Regional Markets

In 1969, the $1.2 billion U. S. market for industrial controls was estimated to be divided among the four census regions shown in Map 1 as follows:

Table 2
1969 REGIONAL MARKETS FOR INDUSTRIAL CONTROLS

Region	Percent of Total Market	Market
Northeast	27	$336,900,000
North Central	39	476,700,000
South	24	294,000,000
West	10	117,600,000

SOURCE: See text.

This estimate is based on an analysis of government data on manufacturers' capital spending for plant and equipment in each region,[1] and on the location of manufacturers who purchase industrial controls as component parts of their products (such as metalworking machinery and air conditioning equipment). It is estimated that 20%[2] of industrial controls sales are to equipment and machinery manufacturers who incorporate the controls into their products. The remaining 80% of sales is used in construction and maintenance.

Projected Southern Market

Current trends indicate that by 1980 the South should account for about 28% of the U. S. market for industrial controls. This would put the southern regional market at about $626 million – more than double the 1969 total. The projected annual growth rate for sales of industrial controls to southern customers between 1969 and 1980 is about 7%, compared to about 5% for the rest of the Nation.

The type of industry attracted to the southern region is gradually becoming more complex, and the South is steadily increasing its share of the Nation's manufacturing capability. In 1954, 25% of the U. S. manufacturers' capital expenditures were made in southern states. By 1963 the figure had risen to 28%, and by 1967 (the year of the most recent Census of Manufacturers) to 31%.[3]

1 U. S. Bureau of the Census, Manufacturers' Expenditures for New Plant and Equipment by Census Regions, 1969, unpublished data.

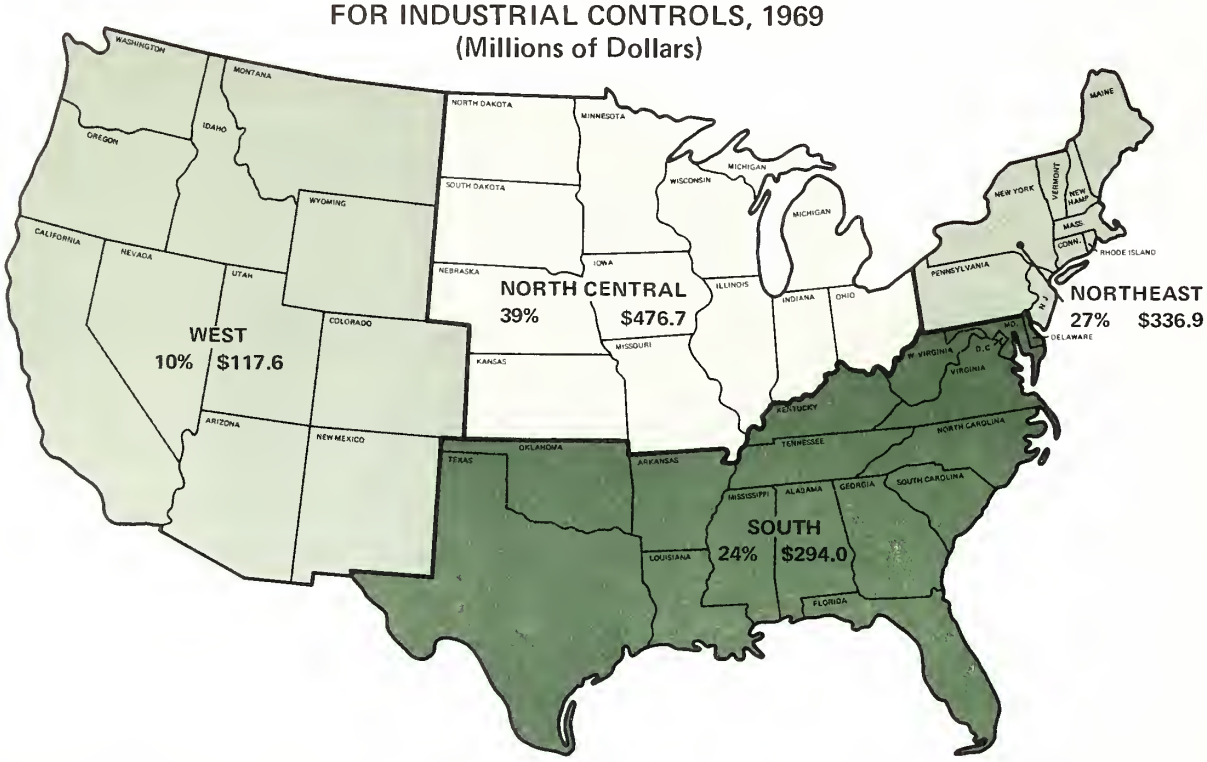
2 U. S. Business and Defense Services Administration, *U. S. Industrial Outlook, 1970,* (Washington: U. S. Government Printing Office, December, 1969), p. 306.

3 U. S. Bureau of the Census, *Statistical Abstract of the United States: 1967* (88th ed.; Washington: U. S. Government Printing Office, 1967), p. 757.

U. S. Bureau of the Census, *Statistical Abstract of the United States: 1970* (91st ed.; Washington: U. S. Government Printing Office, 1970), p. 711.

Map 1

REGIONAL MARKETS
FOR INDUSTRIAL CONTROLS, 1969
(Millions of Dollars)



NOTE: Percentages show each region's share of the total market.

SOURCE: Table 2.

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Export Market

Exports of industrial controls rose from $19 million in 1958 to an estimated $43 million in 1968. For this period of time, exports accounted for a constant 4% of total annual sales.[1] The principal export markets for U. S. manufactured industrial controls are Western Europe and Latin America.

1 U. S. Business and Defense Services Administration, *Growth Pace Setters in American Industry, 1958–68*, (Washington: U. S. Government Printing Office, 1968), p. 54.

THE NEED FOR NEW PLANT FACILITIES

New Plant Requirements

Manufacturers' sales of industrial controls are expected to increase from an estimated $1.2 billion in 1972 to $2.2 billion in 1980. An estimated 42% of this increase will result from inflation, with the remainder representing a real increase in production. Of the real increase in output, an estimated 50% can be produced in existing manufacturing plants. The remaining $290 million of increased sales must be produced in new facilities. To meet this demand, the equivalent of 23 new plants with 350 production workers each will be required.[1]

Location of Production

Historically, manufacturers of industrial controls have been concentrated in the north central region, but the pattern is shifting. In 1963 the north central states accounted for 68% of the industry's employment, but by 1969 the figure was only 51%. The industry's total employment increased by 12,600 production workers in this period; 4,700 of these new people were employed in the South, 3,800 in the Northeast, and 1,800 in the West. In other words, 80% of the industry's expansion during the 1960's occurred outside the traditional area where the industry has been concentrated. Table 3 shows the changes in employment for each region.

Table 3
GEOGRAPHIC DISTRIBUTION OF THE
INDUSTRIAL CONTROLS INDUSTRY

	1963[2]		1969[3]		
Region	Employment	Percent of Total	Employment	Percent of Total	Employment Increase
Northeast	3,300	14	7,100	20	3,800
North Central	15,600	68	17,900	51	2,300
South	3,100	14	7,800	22	4,700
West	800	4	2,600	7	1,800
United States	22,800	100	35,400	100	12,600

1 Based on 1972 annual sales of $35,750 per production worker.

2 U. S. Bureau of the Census, Census of Manufacturers, 1963, *Industry Statistics,* MC63(2)–36A (Washington: U. S. Government Printing Office, 1966), p. 36A–11.

3 Based on total 1969, SIC 3622 employees, U. S. Bureau of the Census, County Business Patterns, 1969, *U. S. Summary,* CBP–69–1, August, 1970, p. 13, and the regional employment ratios as existing in 1967, U. S. Bureau of the Census, Census of Manufacturers, 1967, *Industry Series,* MC67(2)–36A (Washington: U. S. Government Printing Office, 1970), p. 36A–13.

Production Related to Markets

Production and market for 1969 are shown by region in Table 4. All regions except the north central consume more of the industry's products than they produce. The table also indicates that further dispersion of the industry could produce increased efficiency in distribution, and that most new plants should logically be built outside the north central region.

Table 4
REGIONAL PRODUCTION AND MARKETS, 1969

Region	Market (Millions)[1]	Production (Millions)[2]	Production Imported into Region (Millions)	Production Exported from Region (Millions)
Northeast	$ 336.9	$ 246.3	$90.6	
North Central	476.7	620.0		$143.3
South	294.0	269.5	24.5	
West	117.6	89.4	28.2	
United States	1,225.2	1,225.2		

1 Table 2.

2 Based on industry employment distribution. See Table 3.

THE ECONOMICS OF AN INDUSTRIAL CONTROLS PLANT AT PICAYUNE, MISSISSIPPI

The most significant cost factors affected by plant location are labor, freight, capital, and occupancy costs. Analysis of these cost elements indicates that a plant manufacturing industrial controls, with 200,000 square feet of floor space, 350 production workers, and annual sales of $11.9 million, if located in Picayune, Mississippi, would produce over 50% more profit than similar eastern and midwestern plants. Comparisons in Table 5 show that a plant at Picayune would realize a cost reduction of from $623,300 to $825,540 annually and that the profit increase would range from 54% to 87%.

Table 5
COMPARISON OF COSTS AFFECTED BY PLANT LOCATION
PICAYUNE, MISSISSIPPI, COMPARED TO SELECTED CITIES, 1970
(Hypothetical Plant)

Product: Industrial controls — Floor Space: 200,000 square feet
Manpower: 350 production workers — Annual Sales: $11,900 000[1]
Shipping Weight of Annual Production: 1,449,000 pounds

	Picayune	Buffalo	Cleveland	Milwaukee
Annual Sales	$11,900,000	$11,900,000	$11,900,000	$11,900,000
Less:				
Production Labor Cost (see Table 6)	2,002,000	2,620,800	2,686,320	2,824,640
Freight Cost (see Appendix B)	76,600	66,100	59,900	64,500
Occupancy (taken as 10% of building cost)	120,000	135,000	140,000	135,000
Materials, Supplies, Burden, and Other Costs (except for income tax)[2]	7,930,150	7,930,150	7,930,150	7,930,150
Profit (before income tax)	$ 1,771,250	$ 1,147,950	$ 1,083,630	$ 945,710
Picayune's Advantage	—	$ 623,300	$ 687,620	$ 825,540

1 Industry average for a plant of this size.

2 These costs would not vary appreciably with location. For the hypothetical plant they were assigned a value of $7,930,150, which would give an average profit of $1,059,100 for the three northern plants. This profit is 8.9% of sales, the average pre-tax profit reported for the industry by Robert Morris Associates, *Annual Statement Studies* (1970 ed.; Philadelphia: The Associates, July, 1970), p. 28.

Labor

Picayune's most significant cost advantage comes from lower labor costs. The following analysis examines several factors, in addition to wage rates, which determine the actual labor cost per unit produced.

Wage Rates. The lower prevailing wage scale in the Picayune area would allow a manufacturer to reduce annual payroll costs for the hypothetical plant by $600,000 to $800,000 when compared to costs in equivalent plants in northern cities. Table 6 and Figure 2 show typical production labor costs for the U. S. and for selected cities.

Table 6
PRODUCTION LABOR COSTS FOR A
350-PRODUCTION-WORKER INDUSTRIAL CONTROLS
PLANT IN PICAYUNE, MISSISSIPPI,
AND SELECTED CITIES, 1970

City	Average Hourly Production Workers' Earnings[1]	Total Annual Production Labor Costs[2]	Annual Labor Costs Savings with Picayune Plant
Picayune, Mississippi	$2.75	$2,002,000	$ —
Milwaukee, Wisconsin	3.88	2,824,640	822,640
Cleveland, Ohio	3.69	2,686,320	684,320
Buffalo, New York	3.60	2,620,800	618,800
United States	3.27	2,380,560	378,560

Since this labor cost differential is so significant, its trend is of interest. Figure 3 shows that despite economic gains, the gap between the average Mississippi manufacturing wage and the U. S. average is actually widening. In 1950 the differential was $0.47 per hour, while by early 1972 it had increased to $1.03 per hour.

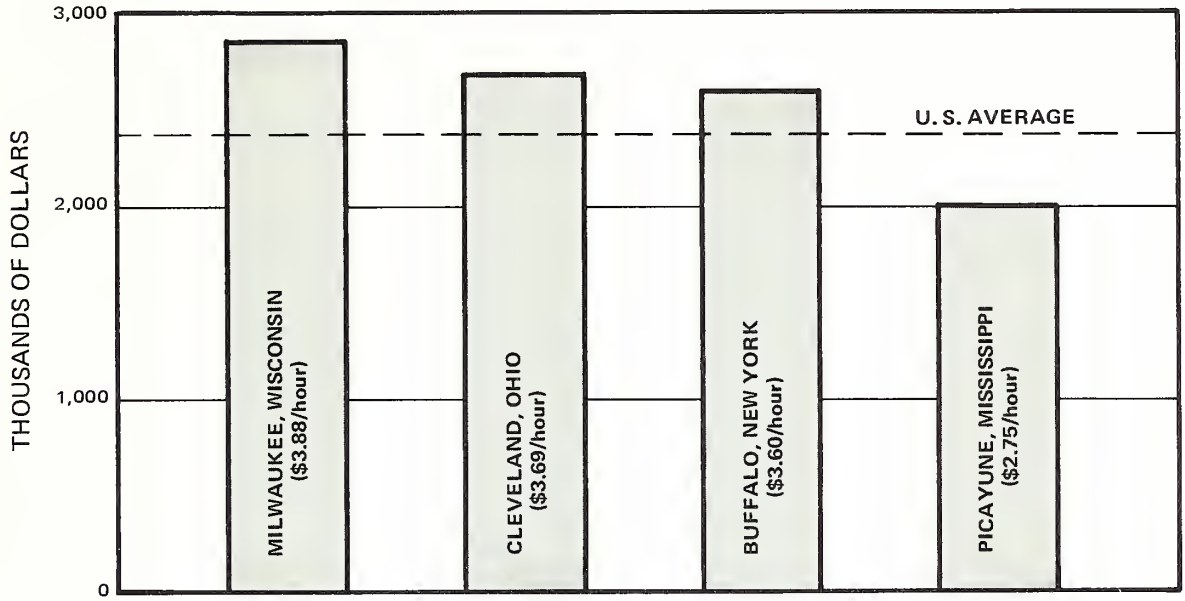
1 See Appendix A.

2 Based on 2,080 hours per worker annually.

Figure 2

ANNUAL PRODUCTION PAYROLL FOR A 350-PRODUCTION WORKER INDUSTRIAL CONTROLS PLANT IN PICAYUNE AND SELECTED CITIES – 1970

(350 Production Workers – 2,080 Hours Per Worker)



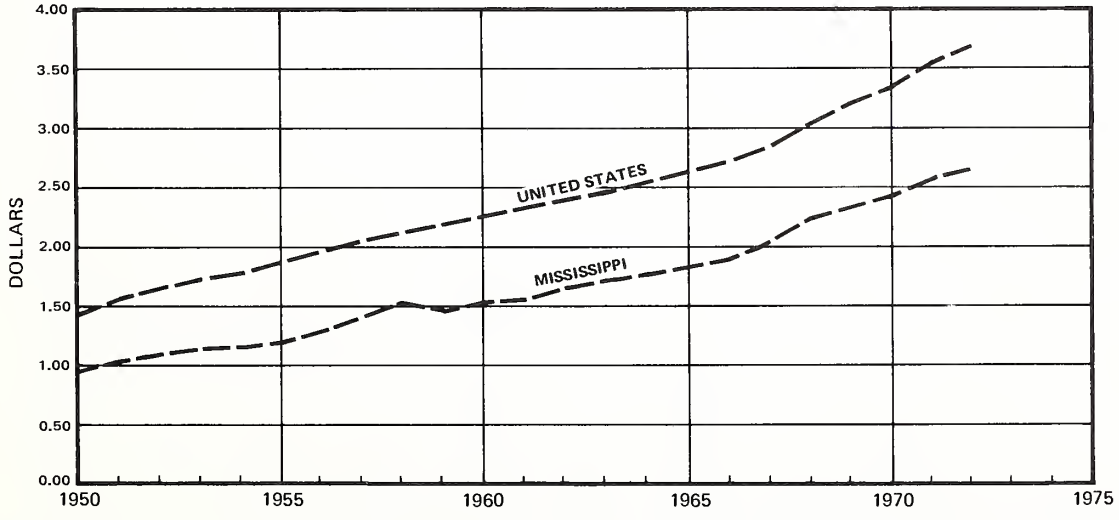
SOURCE: Table 6.

Mississippi Research and Development Center

Figure 3

AVERAGE HOURLY EARNINGS OF PRODUCTION WORKERS ON MANUFACTURING PAYROLLS, 1950–1972*

(U. S. and Mississippi Averages)



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*First quarter data for 1972.

SOURCE: U. S. Bureau of Labor Statistics, *Employment and Earnings, States and Areas, 1939–70,* Bulletin 1370–8 (Washington: U. S. Government Printing Office, 1971), p. 309.

U. S. Bureau of Labor Statistics, *Employment and Earnings*, Vol. 18, No. 11, May 1972, pp. 81, 107, 138.

Wage rates for selected skills in four northern and two southern cities are compared in Table 7. The table shows wage rates in Picayune to be from $0.96 to $1.55 per hour lower than in the four northern cities, and from $0.22 to $0.89 per hour lower than the comparable rates in New Orleans.

The average manufacturing labor rate in Picayune is $0.65 per hour lower than in New Orleans.

Table 7
MANUFACTURING HOURLY WAGE RATES IN
PICAYUNE, MISSISSIPPI, AND SELECTED CITIES, 1971

	Picayune[1]	New Orleans[2]	Buffalo[3]	Cleveland[4]	Milwaukee[5]
Electrician	$3.65	$4.43	$4.88	$4.93	$5.17
Machinist	3.60	4.49	4.95	4.82	5.15
Mechanic	3.55	4.16	4.80	4.71	4.79
Materials Handling Laborer	2.45	2.96	3.53	3.67	3.56
Forklift Operator	2.95	3.17	3.91	3.92	3.91

Labor Quality and Manpower Resources. Plant managers with experience in Mississippi and in other parts of the country give high ratings to the Mississippi employee, especially with respect to his quality of work and productivity (quantity of work). Figure 4 depicts the results of a survey of 43 Mississippi plant managers in the metalworking fields, all of whom had previous experience supervising industrial workers in other states.[6] Analysis of the figure shows that over 90% of these managers considered the quality and quantity of work done by Mississippi industrial workers to be at least equal to that of workers they had managed elsewhere. An impressive 37% rated the Mississippi worker superior in productivity.

With respect to employee turnover, the managers rated Mississippi workers to be about par with workers elsewhere. The lowest ratings were for in-plant trainability and absenteeism, but even on these characteristics, two-thirds of the plant managers rated the Mississippi worker equal to or better than workers in other states.

1 Mississippi Research and Development Center, Mississippi Test Facility Area Wage Survey, October, 1971.

2 U. S. Bureau of Labor Statistics, *Area Wage Survey: The New Orleans, Louisiana, Metropolitan Area,* January, 1972, Bulletin 1725–35 (Washington: U. S. Government Printing Office, April, 1972), pp. 11–13.

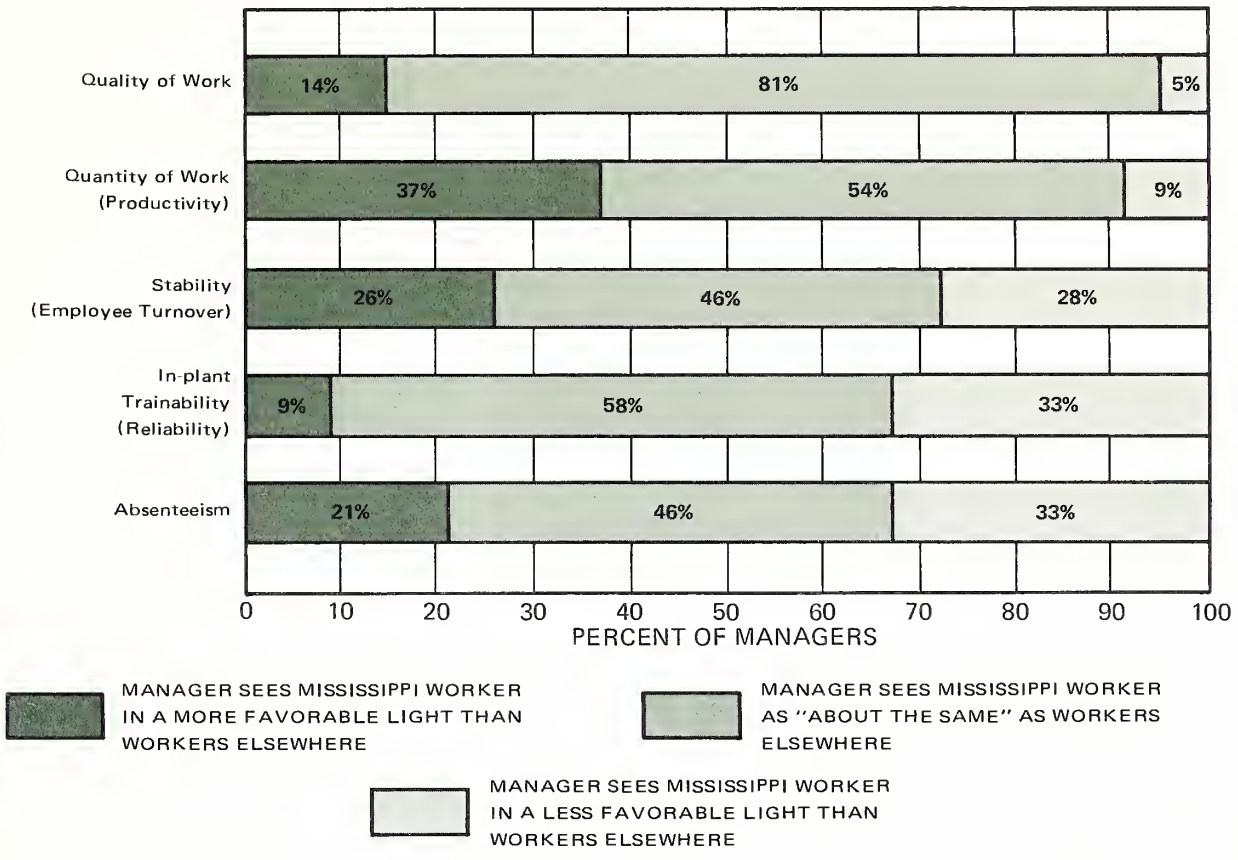
3 U. S. Bureau of Labor Statistics, *Area Wage Survey: The Buffalo, New York, Metropolitan Area,* October, 1971, Bulletin 1725–34 (Washington: U. S. Government Printing Office, January, 1972), pp. 19, 23, 24.

4 U. S. Bureau of Labor Statistics, *Area Wage Survey: The Cleveland, Ohio, Metropolitan Area,* September, 1971, Bulletin 1725–17 (Washington: U. S. Government Printing Office, December, 1971), pp. 19, 21, 22.

5 U. S. Bureau of Labor Statistics, *Area Wage Survey: The Milwaukee, Wisconsin, Metropolitan Area,* May, 1971, Bulletin 1685–76 (Washington: U. S. Government Printing Office, August, 1971), pp. 17, 18, 19.

6 Mississippi Research and Development Center survey, 1969, of industries in SIC Codes 33–37 (Primary and Fabricated Metal Products, Machinery, Electrical Machinery, and Transportation Equipment). The 43 managers responding to the survey represented 9,115 employees.

Figure 4
MANAGEMENT OPINION OF MISSISSIPPI LABOR



Mississippi Research and Development Center

SOURCE: Mississippi Research and Development Center, 1969, survey of plant managers within SIC Codes 33–37 (Primary and Fabricated Metal Products, Machinery, Electrical Machinery, and Transportation Equipment).

There are 53,600 people within a 25-mile radius of Picayune. Of these, approximately 4,500 are employed in manufacturing. There are many people with technical skills who have been underemployed since the National Aeronautics and Space Administration reduced operations at the Mississippi Test Facility in 1970. In June, 1972, the Picayune office of the Mississippi State Employment Office had over 500 active applications on file. Over half these people had experience directly related to manufacturing.

While some skills in the Picayune area are in short supply, interviews with manufacturers there reveal that local labor is considered very trainable (a mild contradiction of the Statewide survey described earlier).

Because Picayune is close to New Orleans, a large number of skilled people commute to New Orleans to work. These people would probably work in Picayune if opportunities were available.

Labor Climate and Work Stoppages. The labor climate throughout Mississippi is one of the Nation's best. The percent of total working time lost to strikes in Mississippi in most recent years was less than half the national average. Table 8 shows data for 1969 and 1970.

A right-to-work law is written into Mississippi's constitution.

Table 8
WORK STOPPAGES, 1969 AND 1970
MISSISSIPPI AND SELECTED STATES[1]

State	Number of Stoppages	Workers Involved (Thousands)	Man-Days Idle (Thousands)	Percent of Estimated Working Time Lost to Stoppages
Mississippi	57	17	330	0.14
Ohio	1,305	605	10,676	0.62
New York	1,093	607	10,261	0.33
Wisconsin	235	107	2,539	0.38
United States	11,417	5,786	109,283	0.36

Training Programs. The Vocational Technical Education Department of Pearl River Junior College, located nearby in Poplarville, can provide start-up training for a new plant, as well as training for future needs. Working with the local Mississippi Employment Service Office, the college will recruit and train personnel to the specifications required to assure a competent work force.

Freight Costs

Although Picayune has a freight advantage in shipping to a southern market, the cost of shipping to a national market from Picayune is slightly higher than from the cities used for cost comparisons. The difference, though ($10,500 to $16,700 per year for the hypothetical plant), is relatively small.

Table 9 summarizes annual freight costs for the hypothetical plant from Picayune and from Buffalo, Cleveland, and Milwaukee. Freight costs were calculated by dividing the country into twelve regions, assigning each region its proportional share of the market for industrial controls (based on 1969 data), and calculating the freight bill for each region's share, based on rates to a major city in that region. Less-than-truckload freight rates (2,000 to 5,000 pounds) were used. Details are shown in Appendix B.

1 U. S. Bureau of the Census, *Statistical Abstract of the United States: 1971* (92nd ed.; Washington: U. S. Government Printing Office, 1971), p. 238.

Table 9
FREIGHT COST TO A NATIONAL MARKET FOR
A HYPOTHETICAL PLANT AT PICAYUNE, MISSISSIPPI, AS
COMPARED TO OTHER PRODUCTION POINTS
(1,449,000 pounds shipped in less-than-truckload quantities)

City	Total Annual Freight Cost	Advantage Compared to Picayune
Picayune, Mississippi	$76,606	$ –
Buffalo, New York	66,058	10,548
Cleveland, Ohio	59,870	16,736
Milwaukee, Wisconsin	64,514	12,092

SOURCE: See Appendix B.

Transportation Facilities

Picayune, Mississippi, is located on Interstate Highway 59, a few miles from the junction with Interstate 10 and within an hour's drive of New Orleans. (See Map 2.)

The Southern Railway provides service to New Orleans, Atlanta, Memphis, Birmingham, and major market areas in the Northeast. (See Map 3.)

Five truck lines serve Picayune. Two of these, Southern Forwarding Company and Roadway Express, provide direct service to points as far away as Boston, Milwaukee, and Omaha.

Greyhound Bus Lines, REA Express, Inc., and United Parcel provide service on small shipments.

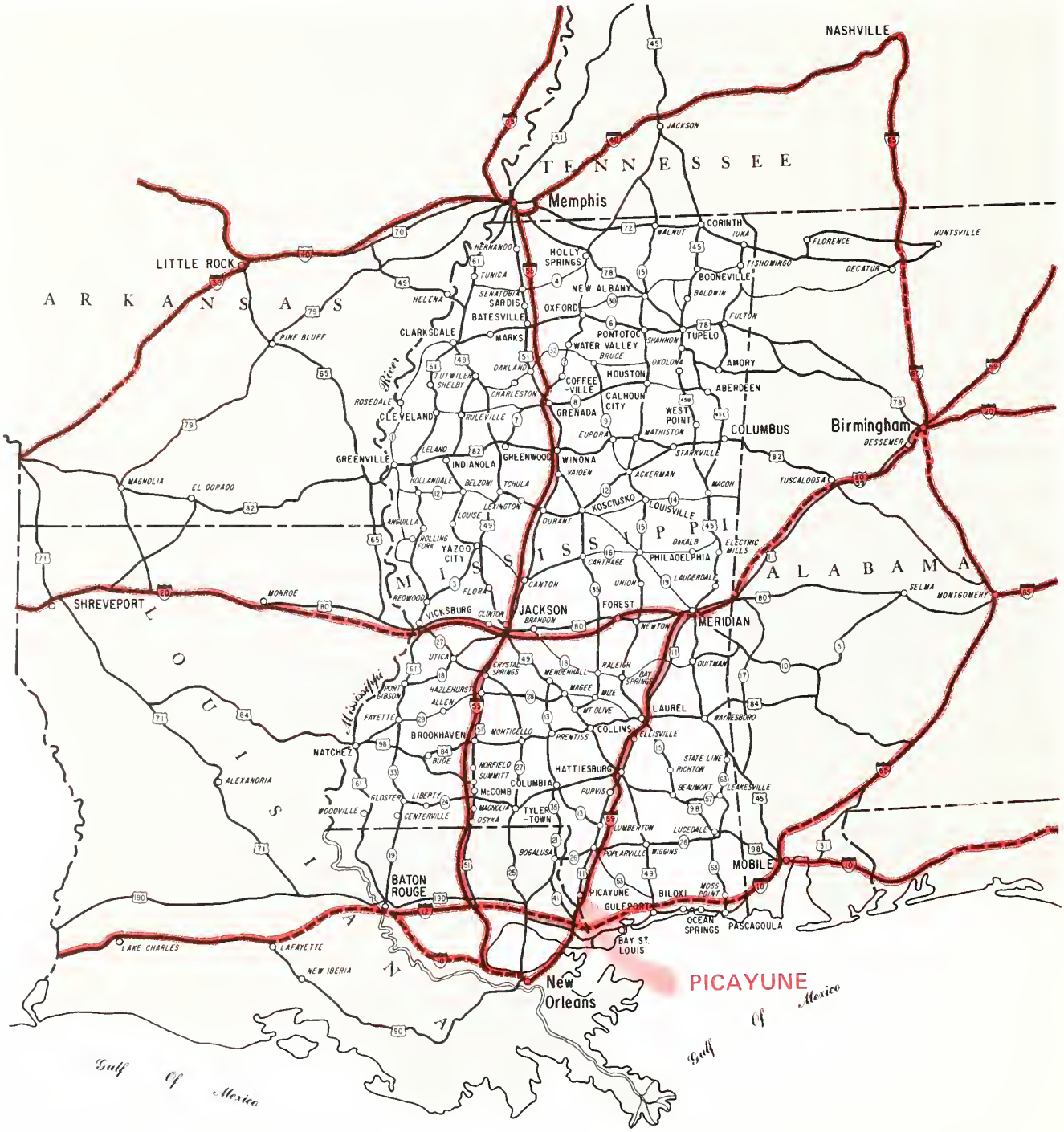
Picayune has a general aviation airport with a 4,000-foot runway, but has no scheduled commercial service. New Orleans International Airport is 65 miles away by interstate highway.

The deep water ports of New Orleans and Gulfport are within 60 miles of Picayune.

Raw Materials

The basic raw material requirements for manufacturing industrial controls can be supplied quickly and economically in Picayune, Mississippi. Steel is available by direct rail connections from Birmingham, Alabama. Plastic moldings, die castings, magnet wire, and aluminum extrusions are available from Mississippi manufacturers. All other materials can be purchased competitively from southern suppliers.

Map 2
HIGHWAYS SERVING MISSISSIPPI



PRESENT INTERSTATE SYSTEM

PROPOSED INTERSTATE SYSTEM

73,280 POUNDS LOAD LIMIT (U. S. HIGHWAY MARKER)

57,650 POUNDS LOAD LIMIT (STATE HIGHWAY MARKER)

STATE BOUNDARY

Memphis — MAJOR BREAKBULK TERMINAL CITIES

JACKSON — KEY TERMINAL INTERCHANGE CITIES

VICKSBURG — TERMINAL CITIES

OAKLAND — OTHER CITIES

N

25 0 25 50 75 100 Miles

SCALE

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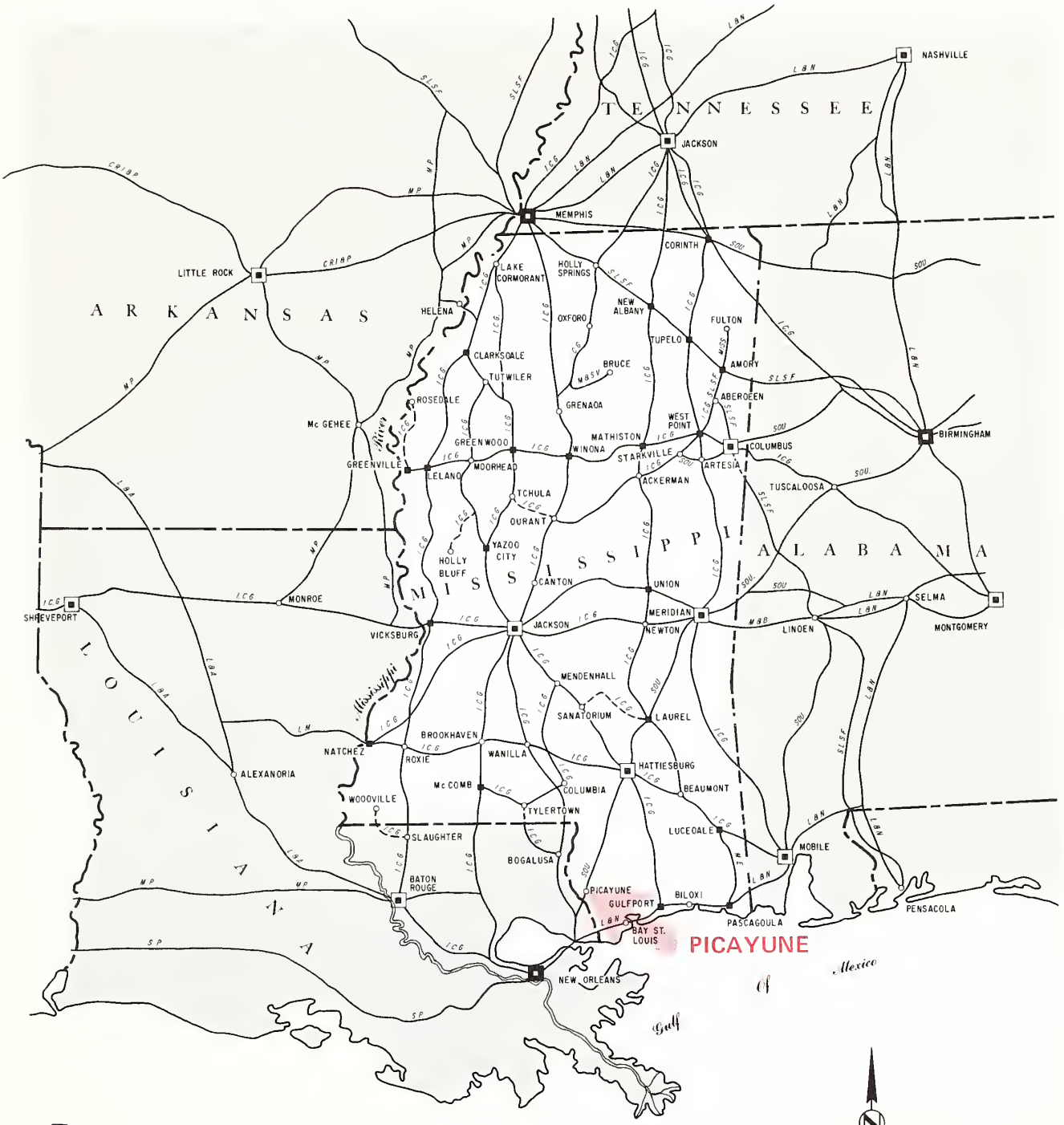
Map 3
RAILROAD SYSTEMS AND SERVICE IN MISSISSIPPI



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Building Costs

A 200,000 square foot building for the manufacture of industrial controls can be built in Picayune, Mississippi, for $1,200,000. This same building constructed in the cities used for comparison would cost from $1,350,000 to $1,400,000.

The proposed building would be of steel construction with 20-foot eaves, six-inch reinforced concrete floor, partition between warehouse and manufacturing areas, eight overhead doors for truck docks, ten walk-in doors, sanitary plumbing, and lights.

No costs for land, parking lots, or fences were included.

Table 10 shows a comparison of building costs by cities.

Table 10
COMPARISON OF BUILDING COSTS IN SELECTED CITIES
FOR A 200,000-SQUARE-FOOT STEEL BUILDING

City	Cost Per Square Foot	Total Cost	Savings If Built in Picayune
Picayune, Mississippi	$6.00	$1,200,000	$ —
Milwaukee, Wisconsin	6.75	1,350,000	150,000
Cleveland, Ohio	7.00	1,400,000	200,000
Buffalo, New York	6.75	1,350,000	150,000
United States Average	6.30	1,260,000	60,000

SOURCE: The cost for Picayune, Mississippi, was developed by a construction company cost estimator. The costs for the other cities were obtained by factoring the Picayune cost by the City Cost Indexes from *Building Construction Cost Data, 1971* (29th ed.; Duxbury, Massachusetts: R. S. Means Co., Inc., 1971), p. 154.

Industry Support Facilities

Picayune is located 55 miles from the trade center of New Orleans. Located within New Orleans are supply houses that can provide most maintenance supplies including electrical equipment and parts, machine parts, expendable supplies, material handling equipment and parts, steel and specialty metals, janitorial supplies, and lubricants. Also, New Orleans has shops that provide heat treating, plating, and other services occasionally needed.

Several general machine and welding shops are located in Picayune. These shops can provide services as required.

Plant Financing and Taxes

Mississippi's BAWI Bond Law and Industrial Revenue Bond Law permit a financially sound manufacturer to build and equip a plant on a long-term lease, with greatly reduced capital outlays and advantageous interest rates. If such financing is used, neither plant nor equipment is subject to ad valorem tax.

If the new industry decides to use other methods of financing, Mississippi law authorizes exemption from local property tax for a period up to ten years.

Mississippi law provides for the establishment of free port warehouses if at least 50% of the stored property is shipped out of the State. Under the free port warehouse law, stored property that is to be shipped out of Mississippi is exempt from ad valorem tax.

The Mississippi corporate income tax is 4%.

PICAYUNE'S ECONOMIC AND SOCIAL RESOURCES

Picayune is a city of 10,467 people located 54 miles northeast of New Orleans in Pearl River County, Mississippi, less than one hour's drive from New Orleans by interstate highway. The city's population grew by more than 33% between 1960 and 1970. The county's population is 27,802, of which 18% is Negro. Map 4 shows the city and the surrounding area.

Major employers are Crosby Chemicals, Inc. (organic chemicals), Standard Container Co. (cans), St. Regis Paper Co. (boxes), and Picayune Manufacturing Co. (electrical housewares).

Mississippi Test Facility

The Mississippi Test Facility, shown on Map 4 was built by NASA at a total cost of $350 million to test the first stage Saturn rocket engines for the Apollo program. Employment at the facility peaked at 6,200 in 1965, declined to 500 by 1971, and has since climbed to 1,100 due to a number of other government programs, most notable of which is that of the National Oceanic and Atmospheric Administration.

Education

The Picayune Separate Municipal School District includes one senior high school, one junior high school, and six elementary schools. There is also a private school (grades one through nine) in Picayune.

Median school years completed for the adult population is 12.0, compared to the U. S. average of 12.2.[1]

Pearl River Junior College in Poplarville, 27 miles away, provides academic instruction through the second year of college, as well as a program of vocational education.

Graduate degrees in engineering, business, management, and science are granted by several universities in New Orleans. This work may be done in either day or evening classes.

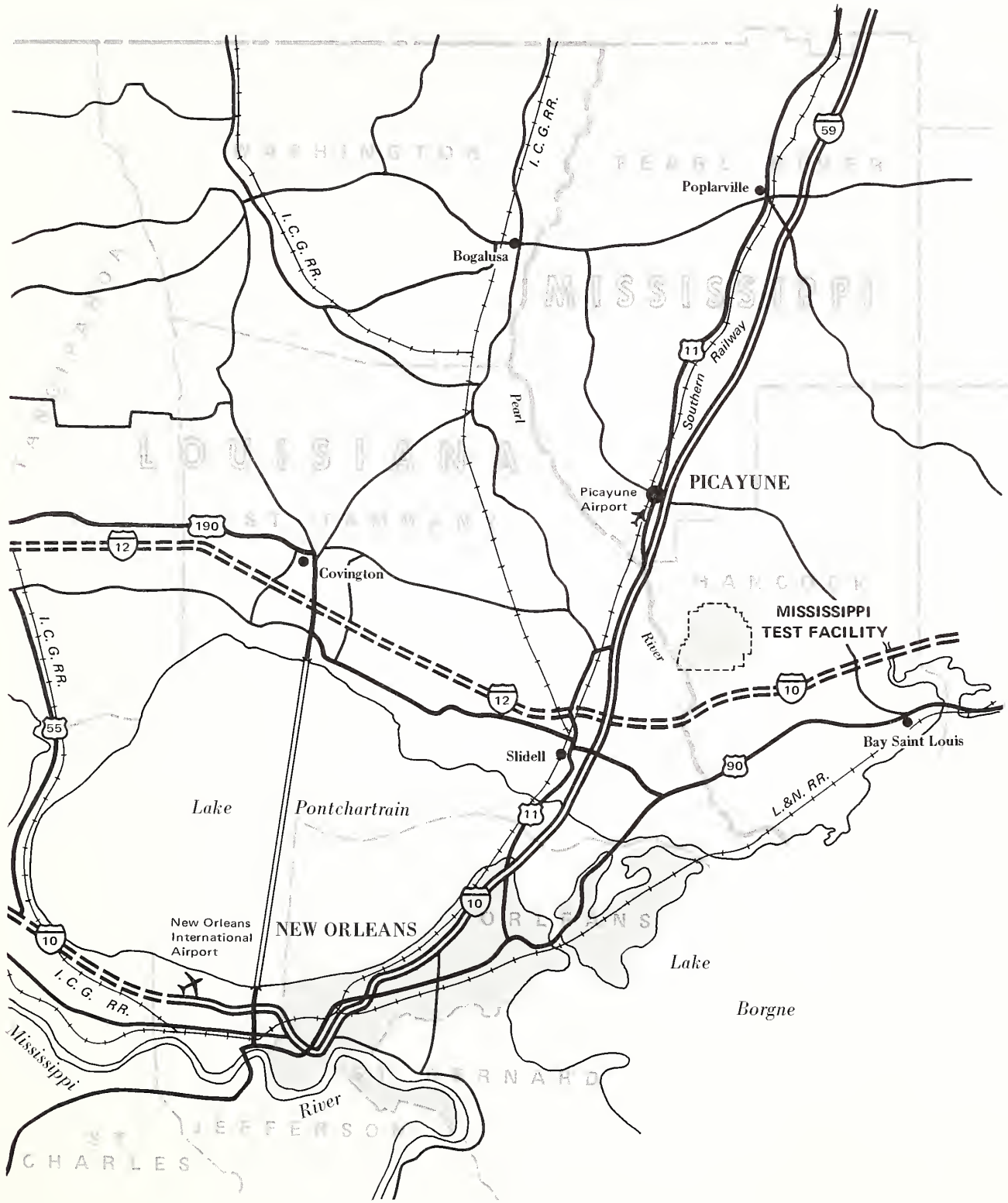
Medical Facilities

Picayune is served by Crosby Memorial Hospital (100 beds) and is located 55 miles from the center of medical services in New Orleans, which includes two medical schools.

1 U. S. Bureau of the Census, U. S. Census of Population, 1970, *General Social and Economic Characteristics, Mississippi,* Final Report PC(1)—C26 (Washington: U. S. Government Printing Office, 1972), p. 237.

U. S. Bureau of the Census, "Educational Attainment: March 1970," *Current Population Characteristics,* Series P—20, No. 207 (Washington: U. S. Government Printing Office, November 30, 1970), p. 11.

Map 4
PICAYUNE AND SURROUNDING AREA



Recreation

Picayune maintains four public parks that include playground equipment, baseball fields, and a swimming pool.

The Mississippi Gulf Coast with its beaches, water sports, and deep sea fishing is within 35 miles of Picayune.

The city of New Orleans, located 55 miles from Picayune by interstate highway, offers unique cultural attractions, as well as traditional theater and sporting events.

APPENDICES

Appendix A
ESTIMATED EARNINGS OF PRODUCTION WORKERS IN THE INDUSTRIAL CONTROLS INDUSTRY

Average hourly earnings for 1970 in Buffalo, Cleveland, and Milwaukee were obtained from figures reported by the U. S. Department of Labor for the most applicable industry group (SIC 36 for Milwaukee and Buffalo, and SIC 362 for Cleveland).[1] The U. S. average is the reported figure for the industrial controls industry (SIC 3622).[2] All of these rates are in agreement with averages obtained from a questionnaire mailed to major manufacturers in the industry. Picayune was not included in this analysis.

Average hourly earnings in Picayune, Mississippi, were determined by an analysis of data obtained from union contracts with Mississippi plants manufacturing in SIC 36 and from interviews with manufacturers in the Picayune area.

New Orleans is included to present an area labor cost comparison.

Average 1970 earnings were as follows:

Picayune, Mississippi	$2.75 per hour
Milwaukee, Wisconsin (SIC 36)	3.88 per hour
Cleveland, Ohio (SIC 362)	3.69 per hour
Buffalo, New York (SIC 36)	3.60 per hour
New Orleans, Louisiana (All Manufacturing)	3.35 per hour
United States (SIC 3622)	3.27 per hour

1 U. S. Bureau of Labor Statistics, *Employment and Earnings: States and Areas, 1939-1970,* Bulletin 1370–8 (Washington: U. S. Government Printing Office, 1970), pp. 246, 391, 456, 623.

2 U. S. Bureau of Labor Statistics, *Employment and Earnings: Vol. 17, Nos. 9 and 11; Vol. 18, Nos. 1, 3, 5, and 7,* (Washington: U. S. Government Printing Office, 1971 and 1972).

Appendix B
COMPARATIVE ANNUAL FREIGHT COSTS

Freight costs were developed using less-than-truckload (2,000–5,000 pounds) rates from Milwaukee, Cleveland, Buffalo, and Picayune to a national market. All rates are presently applicable rates used by general commodity carriers. To represent the national market, the country was divided into 12 parts and each part allotted its estimated share of the hypothetical plant's annual production. Then a central city was chosen in each region, and the simplifying assumption was made that all shipments to a particular region would go to that city.

The export market was not considered in this analysis due to its relative unimportance.

Calculations of the total freight bill for 1,449,000 pounds of industrial controls, shipped to a national market from Picayune, Mississippi; Milwaukee, Wisconsin; Cleveland, Ohio; and Buffalo, New York, are shown in Appendix Table B–1.

Appendix Table B–1
ANNUAL FREIGHT COSTS TO SHIP 1,449,000 POUNDS OF
INDUSTRIAL CONTROLS TO THE NATIONAL MARKET

To:	Percent of National Market Represented	CWT	From: Milwaukee Rate	Milwaukee Cost	Cleveland Rate	Cleveland Cost	Buffalo Rate	Buffalo Cost	Picayune Rate	Picayune Cost
Boston	6.6	956.3	$5.53	$ 5,288.33	$ 4.21	$ 4,026.02	$ 3.89	$ 3,720.01	$7.08	$ 6,770.60
Pittsburgh	9.0	1,304.1	4.11	5,359.85	2.53	3,299.37	3.50	4,564.35	5.68	7,407.29
Syracuse	11.2	1,622.9	4.53	7,351.74	3.34	5,420.49	2.76	4,479.20	6.54	10,613.77
Columbus, O.	12.1	1,753.3	3.49	6,119.02	2.36	4,137.79	3.28	5,750.82	4.86	8,521.04
Chicago	10.8	1,564.9	2.00	3,129.80	3.36	5,258.06	3.92	6,134.41	4.71	7,370.68
Lansing, Mich.	9.8	1,420.0	3.19	4,529.80	2.58	3,663.60	3.54	5,026.80	5.14	7,298.80
St. Louis	5.7	825.9	3.41	2,816.32	4.07	3,361.41	3.54	2,923.69	4.01	3,311.86
Charlotte, N. C.	10.4	1,507.0	4.86	7,324.02	4.22	6,359.54	4.75	7,158.25	4.46	6,721.22
Nashville	5.3	768.0	3.60	2,764.80	3.60	2,764.80	4.45	3,417.60	3.66	2,810.88
New Orleans	9.0	1,304.1	4.98	6,494.42	5.28	6,885.65	6.24	8,137.58	1.45	1,890.95
Phoenix	1.6	231.8	7.85	1,819.63	8.66	2,007.39	8.88	2,058.38	7.79	1,805.72
Los Angeles	8.5	1,231.7	9.35	11,516.40	10.30	12,686.51	10.30	12,686.51	9.81	12,082.98
Total	100.0	14,490.0		$64,514.13		$59,870.63		$66,057.60		$76,605.79